

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings of claims in the application.

Listing of Claims:

1 Claim 1 (Withdrawn): A method for achieving a circadian rhythm phase-delaying effect in a
2 human, the method comprising the step of:
3 administering to the human an amount of melatonin, melatonin agonist or
4 compound that increases endogenous production of melatonin in the
5 human, wherein said administration produces in the human a plasma
6 melatonin or agonist concentration of greater than quiescent melatonin or
7 equivalent agonist levels at a time that does not overlap with onset of
8 endogenous melatonin production in the human, and
9 wherein when melatonin, agonist or compound that increases endogenous
10 production of melatonin in the human is administered to produce plasma
11 melatonin or agonist concentration of greater than quiescent or equivalent
12 agonist levels that overlaps offset of endogenous melatonin production,
13 said greater than quiescent melatonin or equivalent levels rise after the
14 onset and fall before the next melatonin onset.
15

1 Claim 2 (Withdrawn): The method of claim 1 wherein melatonin, melatonin agonist or
2 compound that increases endogenous production of melatonin in the human is to produce
3 plasma melatonin or agonist concentration of greater than quiescent melatonin or
4 equivalent agonist levels that rise after about CT 18 and fall before about CT 14.

1 Claim 3 (Withdrawn): The method of claim 2 wherein melatonin, melatonin compound that
2 increases endogenous production of melatonin in the human is administered to produce
3 plasma or agonist concentration of greater than quiescent melatonin or equivalent agonist
4 levels that rise after about CT 18 and fall before about CT 6.

5
1 Claim 4 (Withdrawn): The method of claim 2 wherein melatonin, melatonin agonist or
2 compound that increases endogenous production of melatonin in the human is
3 administered to produce plasma melatonin or agonist concentration of greater than that
4 quiescent melatonin or equivalent agonist levels that rise after about CT 18 and fall
5 before about CT 1.

6
1 Claim 5 (Withdrawn): A method according to Claims 1, 2, 3 or 4 wherein exogenous melatonin,
2 melatonin agonist or compound that increases endogenous production of in the human is
3 administered to a human in an immediate-release formulation.

4
1 Claim 6 (Withdrawn): A method according to Claims 1, 2, 3 or 4 wherein exogenous melatonin,
2 melatonin agonist or compound that increases endogenous production of in the human is
3 administered to a human in a delayed-release formulation.

4
1 Claim 7 (Withdrawn): A method according to Claims 1, 2, 3 or 4 wherein exogenous melatonin,
2 melatonin agonist or compound that increases endogenous production of melatonin in the
3 human is administered to a human in a sustained-release formulation.

1 Claim 8 (Withdrawn): A method according to Claims 1, 2, 3 or 4 wherein exogenous melatonin,
2 melatonin agonist or compound that increases endogenous production of melatonin in the
3 human is administered to a human in any combination of an immediate-release
4 formulation, a delayed-release formulation or a sustained-release formulation.

1 Claim 9 (Currently amended): A method for achieving a circadian rhythm phase-delaying effect
2 in a human, the method comprising the step of:

3 administering to the human an amount of exogenous melatonin, melatonin agonist
4 or compound that increases endogenous production of melatonin in the
5 human,

6 wherein said administration of the exogenous melatonin, melatonin agonist or
7 compound produces in the human a level of plasma melatonin or ~~agonist~~
8 ~~concentration of greater melatonin or~~ equivalent agonist levels during the
9 time interval from about CT 18 to about CT 6 ~~than from the time interval~~
10 ~~from about CT 6 to about CT 18, wherein~~

11 ~~wherein the~~ plasma melatonin or equivalent agonist levels are elevated and
12 maintained over the time interval from about CT 18 to about CT 6; or
13 the plasma melatonin or equivalent agonist levels are elevated and maintained

14 during a time interval that overlaps about CT 0[.] and/or said
15 administration of the exogenous melatonin, melatonin agonist or
16 compound produces the plasma melatonin or equivalent agonist levels
17 which are higher during the time interval from about CT 18 to about CT 6

18 than during the time interval from about CT 6 to about CT 18 to achieve
19 an optimal phase-delaying effect.

20

1 Claim 10 (currently amended): A method according to Claim 9 wherein the exogenous
2 melatonin, melatonin agonist or compound that increases the endogenous production of
3 melatonin in the human is administered after CT 18 and prior to about CT 1.

4

1 Claim 11 (withdrawn): A method for alleviating a circadian rhythm disorder in a human, the
2 method comprising the step of achieving a circadian phase-delaying effect in the human
3 according to the method of Claims 1, 2, 3 or 4.

4

1 Claim 12 (withdrawn): The method of Claim 11 wherein the circadian rhythm disorder is jet lag.

2

1 Claim 13 (withdrawn): The method of Claim 11 wherein the circadian rhythm disorder is
2 winter depression.

3

1 Claim 14 (withdrawn): The method of Claim 11 wherein the circadian rhythm disorder is a
2 sleep disorder.

3

1 Claim 15 (withdrawn): The method of Claim 14 wherein the sleep disorder is schedule-
2 induced.

3

1 Claim 16 (withdrawn): The method of Claims 14 or 15 wherein the sleep disorder is delayed
2 sleep phase syndrome or advanced sleep phase syndrome.

1 Claim 17 (withdrawn): The method of Claim 11 wherein the circadian rhythm disorder is a
2 free-running circadian rhythm disorder.

1 Claim 18 (original): A method for alleviating a circadian rhythm disorder in a human, the
2 method comprising the step of achieving a circadian phase-delaying effect in the human
3 according to the method of Claims 9 or 10.

1 Claim 19 (original): The method of Claim 18 wherein the circadian rhythm disorder is jet lag.

1 Claim 20 (withdrawn): The method of Claim 18 wherein the circadian disorder is winter
2 depression.

1 Claim 21 (withdrawn): The method of Claim 18 wherein the circadian rhythm disorder is a
2 sleep disorder.

1 Claim 22 (withdrawn): The method of Claim 21 wherein the sleep disorder is schedule-
2 induced.

1 Claim 23 (withdrawn): The method of Claims 21 or 22 wherein the sleep disorder is delayed
2 sleep phase syndrome or sleep phase syndrome.

3

1 Claim 24 (withdrawn): The method of Claim 18 wherein the circadian rhythm disorder is a
2 free-running circadian rhythm disorder.